focus

BURMA

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Burma

For centuries, Burma's major arteries of economic and cultural development have been its rivers, one of which, the Irrawaddy, was made famous by Kipling's lyric evocation: "Can't you 'ear their paddles chunkin' from Rangoon to Mandalay?"

The Irrawaddy is born of snow fields in the rugged, tangled, 19,000-foot mountains where China, India, and Burma meet. Its twin sources, the Nmdi and Mali Rivers, flow southward and join at the base of The Triangle, an area so wild and unexplored that during World War II it was never occupied by the Japanese. Bhamo, the year-round head of navigation, is 900 miles from the sea and 872 miles from Rangoon, the capital, with which it is connected by regular freight and passenger service.

One hundred and fifty miles from the Andaman Sea the river breaks up into a series of distributary channels which wind their way across the almost table-flat delta to reach the sea along a 150-mile mangrove-lined tidal front. Rangoon lies to the east of the main delta but is connected with the Irrawaddy by a 22-mile canal.

Sixty miles southwest of Mandalay the Irrawaddy is joined by its main tributary, the Chindwin, which during the rainy season is navigable for 380 miles to Homalin, near the Indian border. The Chindwin is doubly important in Burma's future because of the more than 2.5 million acres of virtually unsettled and apparently cultivable land along its upper course.

The longest of Burma's great rivers is the Salween, which rises in the mountain knot of eastern Tibet and flows 1,750 miles to reach the sea at Moulmein. Spectacular gorges and rapids mark its route and prevent significant long-haul transportation. But the last 55 miles are used extensively and country boats navigate some portions of the middle reaches. The Salween, like several other rivers in Burma, has considerable potential hydroelectric power, which is slowly being developed.

The Sittang is a misfit stream occupying a former channel of the Irrawaddy and emptying into the Gulf of Martaban 60 miles northeast of Rangoon. It is navigable for only short distances and its future appears limited.

PRESSURE ON THE LAND? By contrast with India and Pakistan to the west and China to the northeast, Burma is relatively uncrowded. Its total population of about 20 million, if equally distributed over its Texas-size area of 261,789 square miles, would give an average density of 77 persons per square mile, roughly equal to that of South

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Carolina. Actually, the population is strikingly concentrated in the deltas of the Irrawaddy and Sittang Rivers, in the Dry Belt, and along the northern Tenasserim Coast. But even in these areas the gross density is seldom over 200 persons per square mile and the nutritional density averages less than 500.

In few countries does one city dominate urban life to the extent that Rangoon does. It has a population of 750,000, more than four times that of Mandalay and seven times that of Moulmein, the second and third cities. International transportation and trade routes focus on it, and more than 85 per cent of Burma's foreign trade moves through its port. As the political and financial hub of the country, it has attracted a considerable volume and variety of industrial development. Here is the center of the chief industries: rice milling and textiles. Here also are the biggest sawmills and furniture plants.

Despite some industrial growth in Rangoon and elsewhere in recent years, Burma can not yet supply its needs for textiles and other products of light industry, and just the barest beginnings have been made in heavy industry. The main items imported are machinery and transport equipment, textiles, mineral fuels and lubricants, dairy products, chemicals, and iron and steel.

ETHNIC DIVERSITY. For a number of years Burma was administered as part of British India and during this time large numbers of Tamils, Telegus, and Chettyars migrated from India to less crowded Burma where labor was scarce and land more easily available. Today Indians make up some 7 per cent of the nation's population and are concentrated in the Delta Region, where they are employed as agricultural laborers, and in the urban communities, where they make up a sizeable percentage of the coolie class and control a high proportion of the retail trade.

Chinese now comprise some 1½ per cent of the total. They have tended to migrate to the retail trades in the cities, and to the mining areas.

Although they are not confined to them, other important ethnic minorities within the Union provided a basis for the primary political divisions: Burma proper; four semiautonomous states, namely Karen, Shan, Kachin, and Kayah; and the Chin Hills, which has a special territorial administration.

The largest of these groups are the Karens, who comprise some 10 per cent of the national total and are mostly in the southern Shan Upland, in Karen State, and in the Irrawaddy Delta. The Shan, closely related to the Thai of neighboring Thailand, make up some 8½ per cent of the population. They are concentrated in their own state, but also spread into the Irrawaddy and Chindwin Valleys.

In addition to these groups, the census recognizes some 120 "races" and a total of 126 languages within the country. Burmese, a mono-syllabic Tibeto-Chinese language, is the official language, although English is rather widely used in government, business, and university affairs.

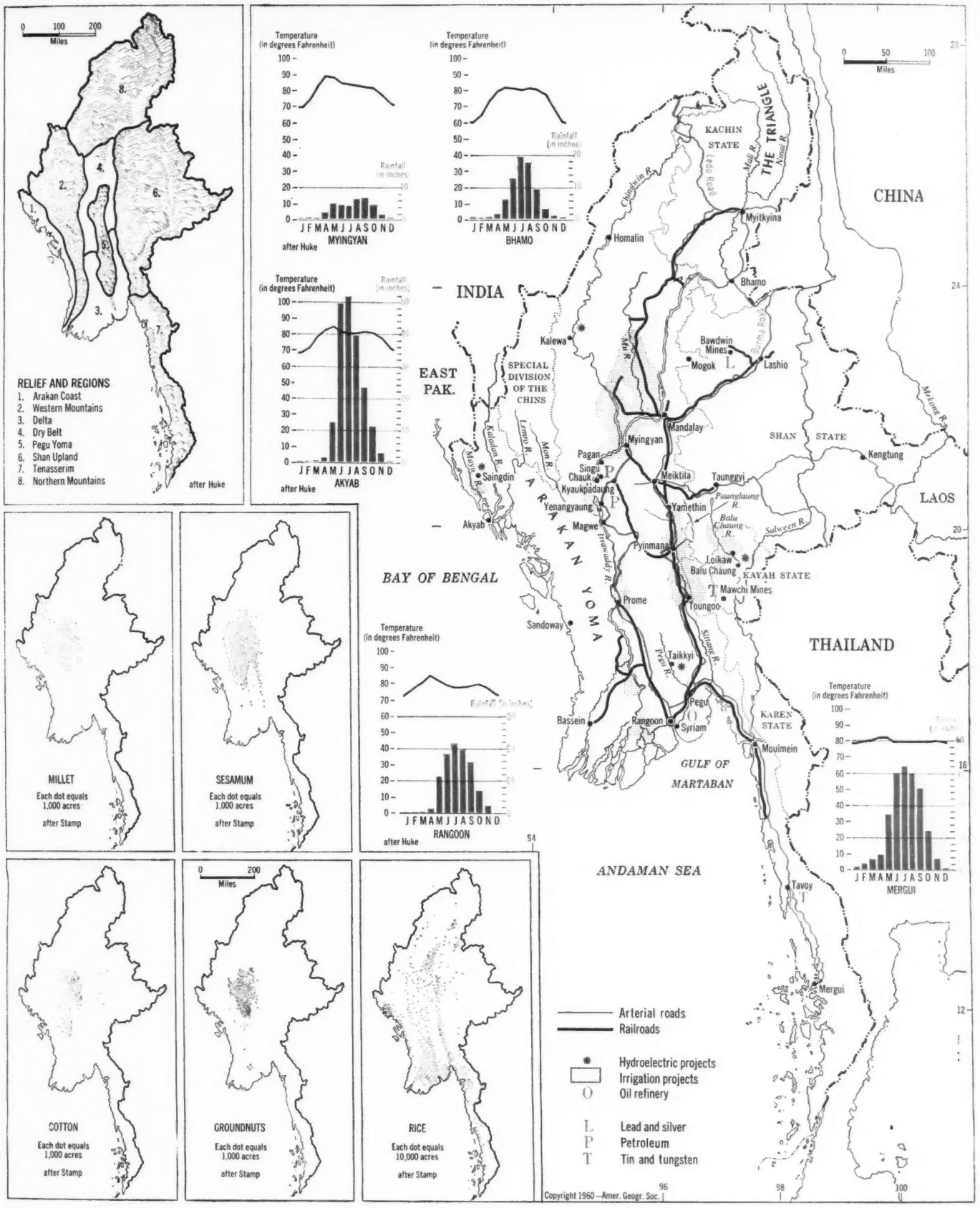
LAND FORMS. Burma is shaped like a huge kite with its top touching eastern Tibet and its tail extending down the Tenasserim Coast. From the Himalayan system a series of rugged mountain ranges run southward, separating Burma from India, and then southeastward parallel with the Arakan Coast. Passage across these mountains is possible only by precipitous trails through a few transverse gaps.

The northeastern and eastern borders of Burma are also marked by rugged ranges, high to the north and lower behind the Tenasserim Coast. Almost the whole of the Shan State is a deeply dissected plateau averaging 3,000 feet in elevation, the western edge of which is a fault scarp that rises in places 2,000 feet in a single step. The well-known Burma Road connects Burma with China's Yunnan Province across the northern part of the Shan Upland.

Between these formidable mountain systems is a central lowland, formed by the valleys of the Irrawaddy, Chindwin, and Sittang Rivers, which is cut down the middle by the wooded rolling hills of the Pegu Yoma. The northern part of the lowland is known as the Dry Belt. The southern part, known as the Delta Region, where the Irrawaddy and much smaller Sittang distributaries join to form an alluvial plain some 12,000 square miles in area, is Burma's famed rice bowl.

Narrow coastal plains provide additional agricultural land on the Arakan and Tenasserim Coasts.

MONSOON RAINFALL. Burma's location on the northeastern shores of the Bay of Bengal expose it to the full effects of the Indian monsoon. Starting in late May and continuing until mid October, southwest winds cross the Bay and intersect the



Maps drawn by Vincent Kotschar

Arakan Coast at right angles. Orographic cooling, convectional activity, and weak low pressure cells induce heavy rainfall, which, at Akyab, for instance, averages 197 inches during the monsoon season. From mid October through mid May the winds are from the north-northeast and Akyab's rainfall totals only about six inches.

This same seasonal pattern is typical of most other parts of the country, though rainfall totals are lower. The Delta averages some 125 inches a year. In the Dry Belt, at Magwe, the total drops as low as 21 inches. Monsoon winds reaching this area have traveled 200 miles north along the Irrawaddy Valley and have already lost much of their moisture or they have crossed the Arakan Yoma, producing heavy rain on the windward slopes and a rain shadow in their lee. Farther north, rainfall again increases, averaging some 80 inches at Myitkyina.

THE RICE BOWL. Stimulated by the introduction of political stability in the Delta Region under British rule, by the first steam shipping, by the opening of the Suez Canal, and by increased demands for rice on the world market, Burma was transformed within a period of 75 years from a country with little agricultural surplus and almost no foreign trade to the world's leading exporter of rice. By 1940, it was annually selling abroad 3 million tons of rice, 95 per cent of which came from the Delta Region.

During World War II and the period of insurrections following it, large areas of rice went out of production. Rice exports dropped tragically to an average of slightly over 1 million tons. Since then exports have risen slowly and by 1959 had reached 1.8 million tons, enough to re-establish Burma as the leading exporter but with a volume challenged by both the United States and Thailand, the second and third exporters.

In the Delta Region less than one per cent of the farm land is double cropped despite favorable temperatures for year-round production. Double cropping of rice and a dry crop has been proven effective on experimental farms, but the practice has not spread.

Even for rice, fertilizers are seldom used, seed selection is poor, pest damage is high, and cultivation methods are not efficient. As a result, yields average only 1,200 pounds per acre, compared with 3,300 pounds in the United States and 3,200 in Japan. Burma's long-term program for economic and social development particularly emphasizes raising rice yields through the use of fertilizers and more intensive farming practices. At the same time, it aims at greater diversification of crops to cut down on imports, and several large irrigation projects to make possible extensive double cropping in the Delta.

THE DRY BELT. The Dry Belt includes the central Irrawaddy and lower Chindwin Valleys and the northern extension of the Sittang Valley. Here are found one-fourth of the country's people and one-third of its cultivated land. By definition this region has less than 40 inches of rain. Water deficiency is a problem throughout the year. Tanks and wells and canals using tributary streams provide irrigation water for about one-third of the region's agricultural land, and these fields are devoted largely to rice. Nevertheless, the Dry Belt does not normally grow enough of it for local needs.

In contrast to the Delta, the Dry Belt produces a great variety of crops. Sesamum, millet, peanuts, cotton, various pulses, chili, tobacco, and vegetables together account for twice the acreage of rice. Although dry farming techniques are used, crops frequently fail because of fluctuations in rainfall. At one time such failures caused famines, but in recent decades rice surpluses from the Delta have been available. Sesamum and peanuts from the Dry Belt

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supply a large part of Burma's requirements of cooking oil, while the cotton, even though of a rather short staple length, finds a ready market in the nation's textile mills. Millet, in addition to serving as the dietary staple for the less well-to-do people in the region, also is important as a fodder crop for Burma's several million cattle and buffaloes, which mainly are work animals—the prevailing Buddhist faith prohibits the eating of meat.

Broad terraces paralleling both the Irrawaddy and the Chindwin, which are now dry farmed, appear to be well suited to irrigation. And there is plenty of water in these rivers. At such time as the government has funds available for the construction of dams, storage reservoirs, and additional canals, at least 2 million acres of now low-yielding farm land could be converted into high-yielding irrigated land capable of growing two crops a year.

SHIFTING CULTIVATION. In all the mountainous areas of Burma shifting cultivation is practiced and is known locally as *taungya*. Taungya involves cutting and burning the forest cover, then planting and harvesting the crops. Crops planted in a single field often number as many as 45 and include several varieties of rice, maize, beans, tobacco, cotton, sesamum, potatoes, and numerous vegetables. Usually a given field is abandoned in favor of a new field after one or two years, and is not planted again for a decade or more.

This technique of land use often results in a moderately well-balanced diet for the people who practice it, but is destructive of timber reserves and may cause soil erosion. Furthermore, as populations increase, fields are used more frequently, yields gradually decline, and erosion becomes serious.

FISH IS A STAPLE. After rice, fish is perhaps the most common food stuff in Burma. Commercial fishing on a small scale takes place in the major rivers and off both the Arakan and Tenasserim Coasts. Much of the total catch, however, is provided by part-time fishermen. Traps are common in standing water and in all streams, large and small. Farmers cast nets in almost any body of water while their children fish with hook and line.

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